

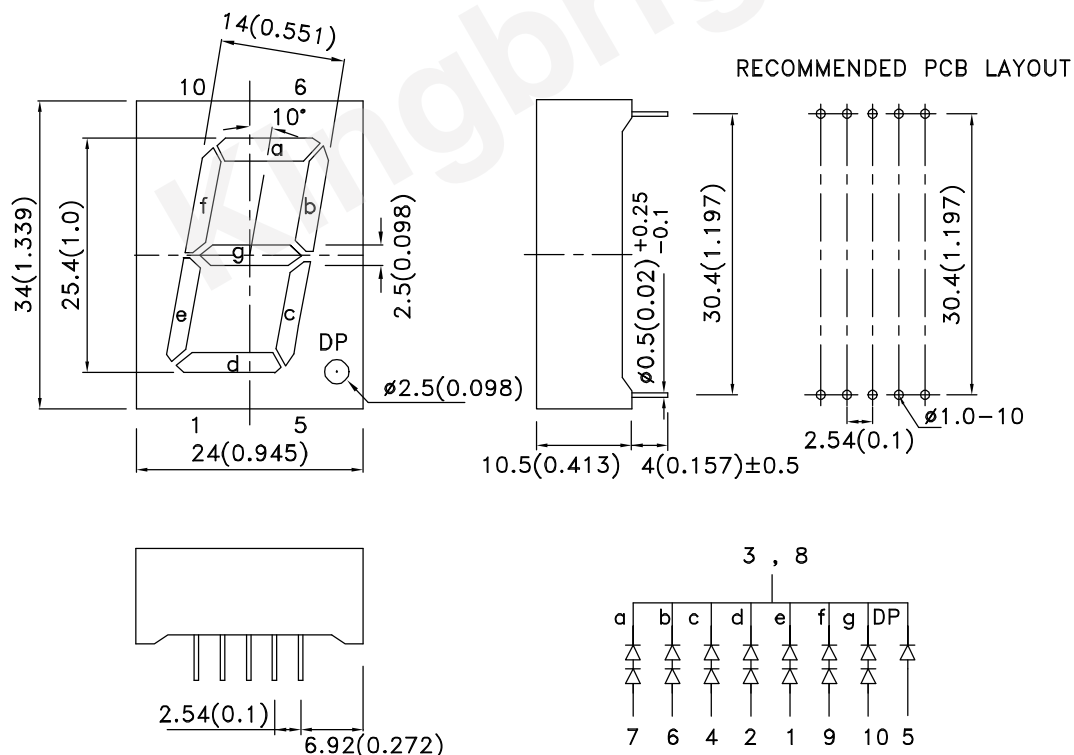
Features

- 1.0 inch digit height.
- Low current operation.
- Excellent character appearance.
- High light output.
- Easy mounting on P.C. boards or sockets.
- Mechanically rugged.
- Standard : gray face, white segment.
- RoHS compliant.

Description

The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

Package Dimensions& Internal Circuit Diagram



Selection Guide

Part No.	Dice	Lens Type	Iv (ucd) [1] @ 10mA		Description
			Min.	Typ.	
SC10-21CGKWA	Green (AlGaInP)	White Diffused	52000	95000	Common Cathode, Rt. Hand Decimal.
			*14000	*33000	

Note:

1. Luminous intensity/ luminous Flux: +/-15%.

*Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Green	574		nm	I _F =20mA
λ_D [1]	Dominant Wavelength	Green	570		nm	I _F =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Green	20		nm	I _F =20mA
C	Capacitance	Green	15		pF	V _F =0V; f=1MHz
V _F [2]	Forward Voltage (DP)	Green	4.2 (2.1)	5.0 (2.5)	V	I _F =20mA
I _R	Reverse Current (Per Chip)	Green		10 (10)	uA	V _R =5V (V _R =5V)

Notes:

1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

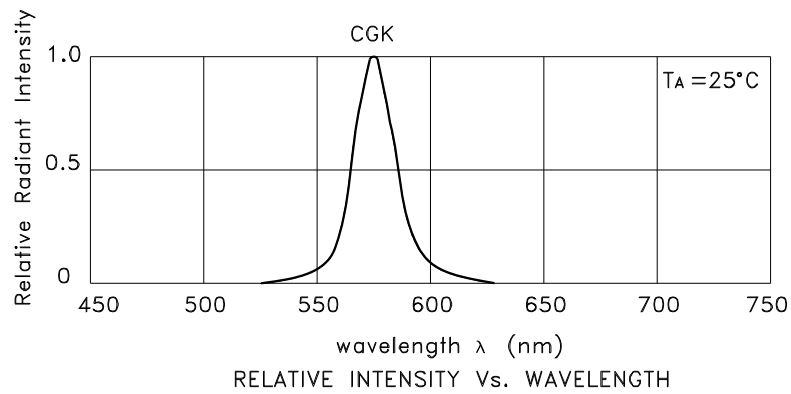
Absolute Maximum Ratings at TA=25°C

Parameter	Green	Units
Power dissipation (DP)	150 (75)	mW
DC Forward Current (DP)	30 (30)	mA
Peak Forward Current [1] (DP)	150 (150)	mA
Reverse Voltage (Per Chip)	5 (5)	V
Operating / Storage Temperature	-40°C To +85°C	
Lead Solder Temperature[2]	260°C For 3-5 Seconds	

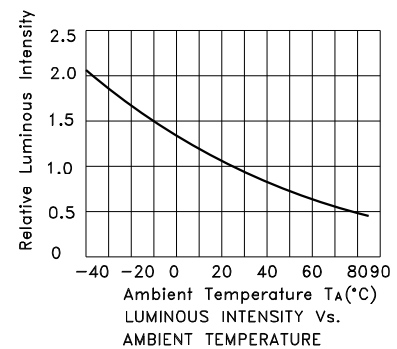
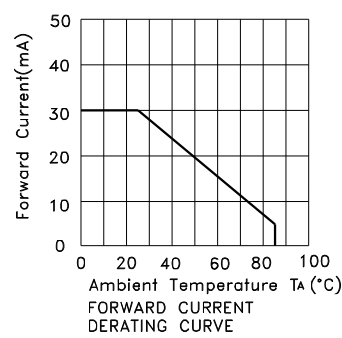
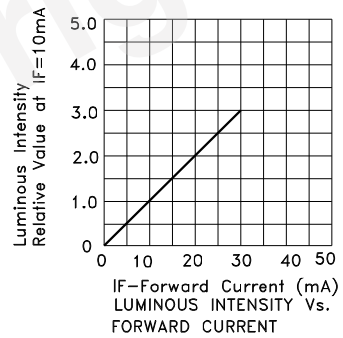
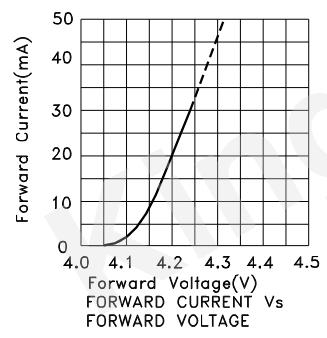
Notes:

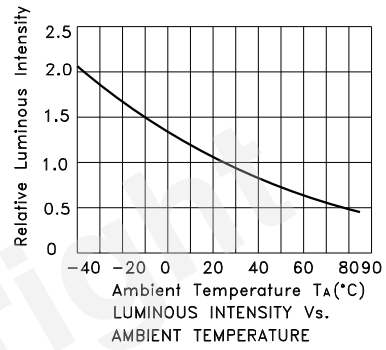
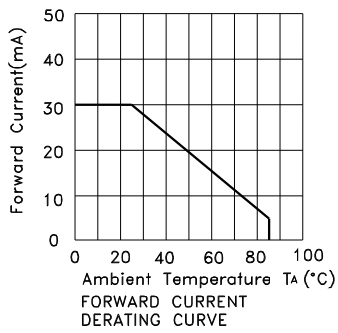
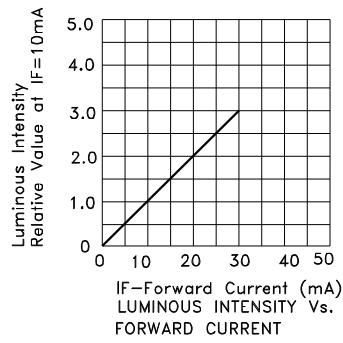
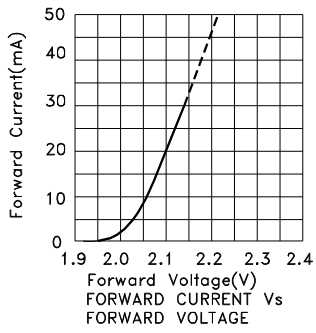
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

2. 2mm below package base.



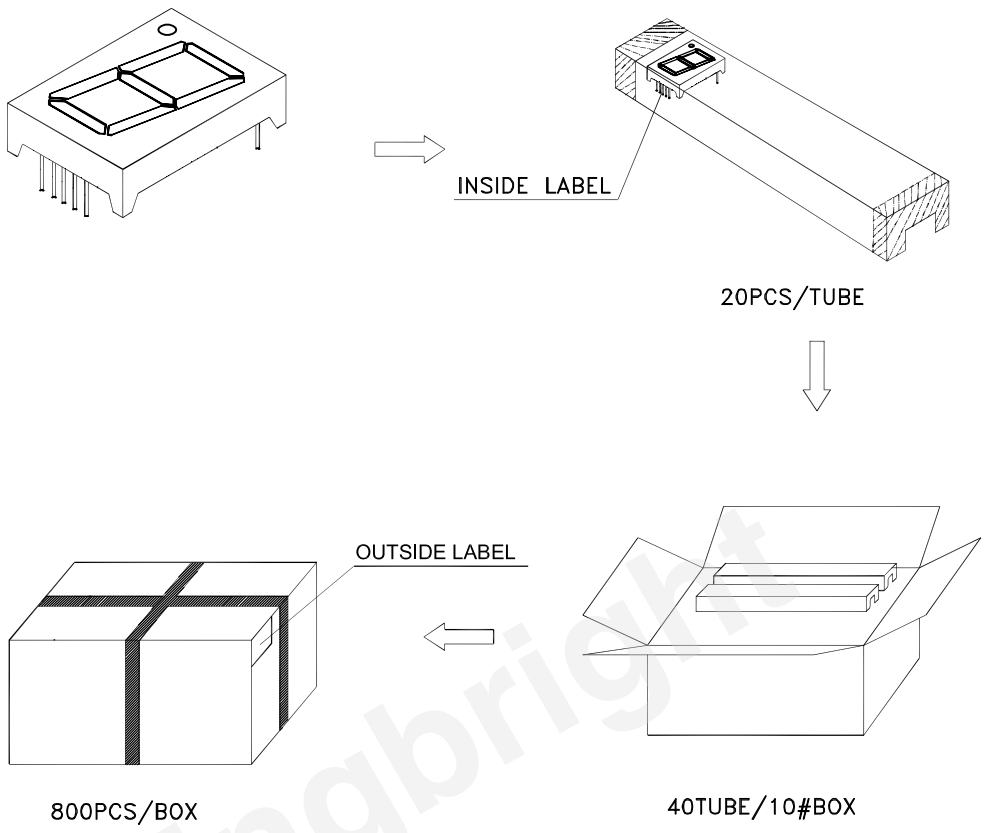
Green SC10-21CGKWA





PACKING & LABEL SPECIFICATIONS

SC10-21CGKWA



Inside Label On IC-tube

Kingbright	TYPE:Sx10-21xxx	PASSED XX XX XX FQCX
QTY:20 PCS	CODE: xx	
		Date Number OF FQC
xxxxxxxxxxx-xxxx	RoHS Compliant	
LOT NO.		

Outside Label On Box

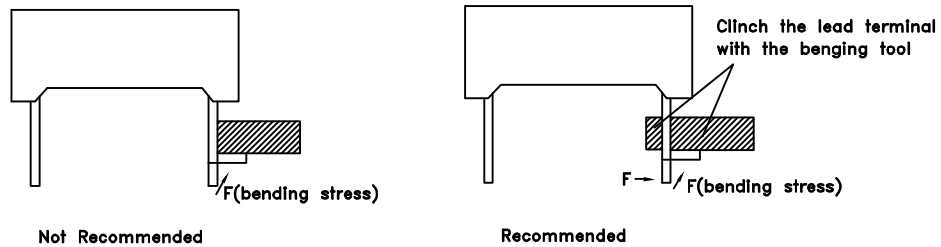
XXXXXX		Bin Code	Number OF QA
Sx10-21xxx	XX		
800 PCS	QAx xx xx xx PASSED	Date	
RoHS Compliant			

THROUGH HOLE DISPLAY MOUNTING METHOD

Lead Forming

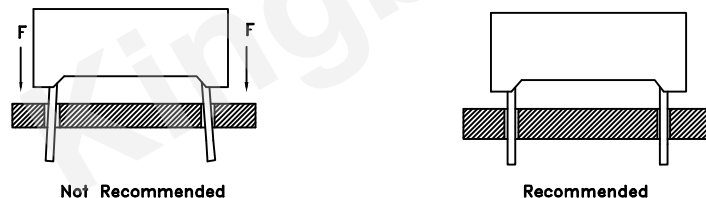
Do not bend the component leads by hand without proper tools.

The leads should be bent by clinching the upper part of the lead firmly such that the bending force is not exerted on the plastic body.

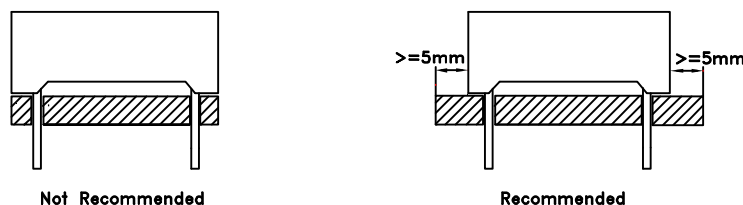


Installation

1. The installation process should not apply stress to the lead terminals.
2. When inserting for assembly, ensure the terminal pitch matches the substrate board's hole pitch to prevent spreading or pinching the lead terminals.

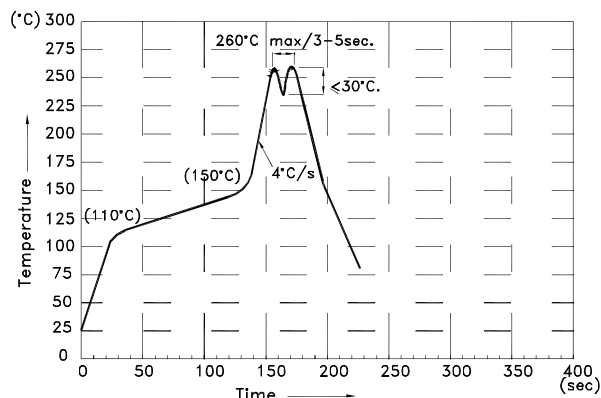


3. The component shall be placed at least 5mm from edge of PCB to avoid damage caused excessive heat during wave soldering.



DISPLAY SOLDERING CONDITIONS

Wave Soldering Profile For Lead-free Through-hole LED.



NOTES:

1. Recommend the wave temperature 245°C~260°C. The maximum soldering temperature should be less than 260°C.
2. Do not apply stress on epoxy resins when temperature is over 85°C.
3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
4. During wave soldering, the PCB top-surface temperature should be kept below 105°C.
5. No more than once.

Soldering General Notes:

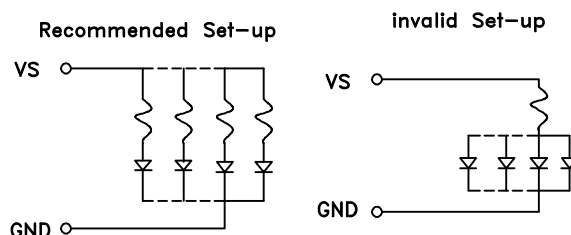
1. Through-hole displays are incompatible with reflow soldering.
2. If components will undergo multiple soldering processes, or other processes where the components may be subjected to intense heat, please check with Kingbright for compatibility.

CLEANING

1. Mild "no-clean" fluxes are recommended for use in soldering.
2. If cleaning is required, Kingbright recommends to wash components with water only. Do not use harsh organic solvents for cleaning, because they may damage the plastic parts. And the devices should not be washed for more than one minute.

CIRCUIT DESIGN NOTES

1. Protective current-limiting resistors may be necessary to operate the Displays.
2. LEDs mounted in parallel should each be placed in series with its own current-limiting resistor.



Detailed application notes are listed on our website.

http://www.kingbright.com/application_notes